Miller, Walker, and Salmon Basin Plan
Project Management Team Meeting

Date: Thursday October 30, 2003

Time: 9:00AM – 12:00PM

Location: City of Burien City Manager's Conference Room

Meeting Summary

Attendees

Dan Bath	City of Burien
Bruce Bennett	King County
Steve Bennett	City of Normandy Park
Steve Clark	City of Burien
Curt Crawford	King County
Roger Kuykendall	Gray & Osborne (for the City of Normandy Park)
Mehrdad Moini	WSDOT
Dale Schroeder	City of SeaTac
Bob Duffner	Port of Seattle
Julie Cairn	King County

Storm Report from Last Week

Last week's storm was well over a 100-year event. How did Miller, Walker, and Salmon Creeks do, as well as any facilities in these basins?

In general, pretty well. The ground was generally pretty spongy in the region before last week's storm, so there was a fair amount of infiltration during and following the event. This would not be expected to be the case if this storm had come in January.

Hopefully the State Emergency Declaration will be able to include King County even though it was not specifically named, in order to provide funding sources to help with repairs.

Miller Creek

Ambaum Regional Detention Facility overtopped and flooded 1st Avenue South with about 6 inches of water over the roadway, necessitating its closure. There was some flooding on Miller Creek, near the Community Club that resulted in the living space of at least one residence being inundated.

Action items are highlighted

The infiltration facilities at the SW 142nd St. depression overtopped during the event and a limited area was flooded with about 6 to 8 inches of water. There was no reported flooding at the Hermes depression, although there was some localized flooding at the Hermes outfall along 1st Avenue South as the result of an ongoing conveyance problem.

The Miller Creek Regional Detention Facility backed up as it should have, to handle the event. Lake Reba was engulfed by MCRDF as expected.

Along Maplewild Av SW (just outside of the Miller basin to the west), Steve Clark noticed four newly constructed catch basins that were dry during the storm. The pavement slopes away from instead of into these facilities.

The City of SeaTac stormwater facilities did ok during the storm.

There was some localized flooding along Miller Creek, near the Community Club, but this does not appear to have impacted living spaces of these residences. There were some small slides as well.

Walker Creek

Contractors for the City of Normandy Park were not able to complete the repairs on the 1st Avenue South culvert before the storms. Pipes collapsed, and more damage has occurred. Normandy Park has contacted WSDOT for emergency assistance, and it is hoped that Federal assistance might become available.

There was some localized flooding on Walker Creek, near the Community Club. There were some small slides as well.

Salmon

A manhole collapsed at the head of Salmon Creek (about 12th Ave SW and SW 120th St.) and emergency repairs were needed to fill a large sinkhole and replace the manhole.

The broken outfall on the beach by the Salmon mouth appears to have remained flowing, although it looks even more askew than it did before the storm.

It does not look like the bypass splitter overtopped to the stream during last week's storm. Dan Bath looked at it.

Most of the calls that King County received related to street and road flooding because of blocked storm drains/catch basins.

Curt would like to know what the King County gauging data shows for Miller, Walker, and Salmon Creeks during the storm event (whatever data is available). Julie will research this.

Follow Up Discussion Regarding Reported and Monitored Flow Pulses in Miller and Walker last August (from the Public Meeting Participants)

King County monitoring gages confirmed the occurrence of two increases in flow in August. Project partners were asked to look at their own maintenance or construction activities to see if they were doing anything that might account for these increased flows. None of the partners had any activities, or were aware of that would account for them.

Action items are highlighted

One thought was that this was during the fish window, and that a contractor might have been doing work.

Another thought was that kids or residents near the stream may have been building a make-shift dam or other structure.

During the meeting, it was suggested that the pulses might be the result of Seattle Public Utilities (SPU) or Highline Water District well operations or pipeline flushing.

Steve Clark will check with WD49. Julie Cairn or Bruce Bennett will check with SPU.

Meeting Summary Discussion and Approval

The October 16 meeting summary was discussed. There were a few corrections/clarifications, and the minutes were approved with those corrections.

Discussion of Most Recent Modeling and Cost Information for Detention Options

Bruce handed out flow frequency and duration analysis graphs for the three streams. The legends on these graphs have been simplified somewhat – moving toward public presentation format and terminology.

Bruce also handed out a spreadsheet of costs for the Miller and Walker basins. Each spreadsheet has calculated detention volumes, infiltration volumes, and cost information for meeting the various flow targets and flow regulations. The volumes and costs are incremental –

- What volume of detention and/or infiltration and what probable cost does it take to get from current flows to Level 1 flow control (controlling only peaks)?
- What volume of detention and/or infiltration and what probable cost does it take to get from Level 1 flow control to Level 2 flow and duration control using a pre-developed condition of 10% effective impervious (75/15/10)? What are the costs both short- and long-term (20-yr planning horizon and beyond)?
- What volume of detention and/or infiltration and what probable cost does it take to get from the Level 2 (75/15/10) flow line to the Level 2 (forested pre-development condition) flow line?
- What volume of detention and/or infiltration and what probable cost does it take to reach the basin-wide goal of 10% effective impervious area?

Short term, as used in these graphs, reflects development and redevelopment of red parcels in a 20-year planning horizon.

Long term, as used in these graphs, reflects a greater than 20-year planning horizon, and reflects development of red parcels and redevelopment of all commercial properties in the basin – hence the longer planning horizon.

Level 1 detention costs are assumed to be borne by developers.

Action items are highlighted

Level 2 costs could be borne by municipalities or by developers, depending on what projects are selected and how they will be implemented to reduce flows in the basins.

The spreadsheets reflect both the total area to be developed or redeveloped (the area of the red parcels*) and the total amount of detention or infiltration needed, and its estimated cost. The analysis is not conducted on a parcel-specific basis.

*Red parcels are those identified as likely to be redeveloped in the next 20 years based on the ratio of improved value to land value, where the improved value is less than the land value.

Level 2 with pre-developed forested conditions is consistent with the new Ecology manual requirements.

Level 2 with predeveloped 75/15/10 conditions is consistent with what Ecology is requiring of the Port of Seattle for Miller and Walker Creeks.

Near-term projects would be those implemented in the 0 – 10 year planning horizon and could include facilities to achieve any desired level of detention, providing funding was available.

IMPORTANT NOTE – The graphs are only addressing the flow regime targets for the streams. The flow regime changes will likely occur over an extended period of time. There are other things that can/will happen while the flow regime is being altered over time, such as habitat improvements and water quality improvements.

A question came up – If an RDF were constructed, would the flow regime change so rapidly and dramatically as to harm the stream (e.g., siltation)? We need to check with ecological staff to make sure that this sudden change in flows would not be detrimental to the system.

Miller Creek Flow Frequency Graph and Cost Sheet

The group identified the following questions as important to address:

1. What is the current status of the creek?
2. What do the current regulatory requirements drive us to, and what does that accomplish?
3. What do we want to achieve and how can we get there?

In Miller, according to the ecologists and geologists, we don't want to let the flow regime get worse. It has equilibrated to a condition, and does not appear to be close to unraveling catastrophically, but the current conditions are not conducive to improved habitat or geological stability. There are things we can do in the system to improve habitat, and improve water quality, but we need to look at reducing flows at the same time to get the most benefit out of habitat or geological improvements. Placing gravel or LWD would not be as useful if they all get scoured downstream by the current flows. Best Available Science tells us we need to improve the flow regime. Best Available Science does not tell us the exact target flow, although there are indications that achieving the 75/15/10 flow in the basin is a good target, and we know that any movement toward that target is good. It

may not be enough, and we don't know for sure, but it's really the best we can do at this time.

Is the 75/15/10 line the appropriate GOAL?

Should the GOAL be the Forested line? This is an urbanized basin though, so this is likely to be totally unrealistic.

If we don't outline a way to meet the GOAL flow, is it an inappropriate GOAL?

After further discussion about the graphs and the cost spreadsheet, the PMT agreed that the basin-wide flow goal representing a 10% impervious basin is appropriate for the Miller Creek Basin. This is the line shown as GOAL on the graphs.

The PMT further agreed that the appropriate regulatory flow control detention standard for Miller Creek is Level 2 with a pre-development condition of 75/15/10.

Walker Creek Flow Frequency Graph and Cost Sheet

The group discussed whether the basin wide flow goal representing a 10% impervious basin is appropriate for the Walker Creek Basin. This is the line shown as GOAL on the graphs.

How would we get the additional storage in the Walker system if more storage is deemed necessary? The majority of the basin is single-family residential.

The Walker Creek system is the best of the three, and it is in pretty good shape. Do we need to spend resources here, or should spend them elsewhere? At the same time, because it is the best of the three, we need to make sure we protect it and not let it degrade.

Protection of the headwater wetlands may be the most critical way to protect the Walker system. This might include purchasing available property. There are other wetlands as well in the Walker system that should be looked at for appropriate classification and protection.

In order to address citizen criticism about presuming the third runway is built, we should expand the modeling runs for Walker that presume the 3rd runway is NOT built, so that we can determine how much storage would be required in the basins under various flow control standards. This will allow cost calculations to be made for these scenarios.

If we recommend a basin-wide flow goal that we may not be able to get to, is that inappropriate?

The PMT **did not** come to decisions on the basin-wide flow goal or the recommended flow control standard for the Walker Creek system.

Salmon Creek Recommended Flow Goal and Detention Standards

Based on earlier data reviews and discussions, the PMT confirmed at this meeting that the basin wide flow goal representing a 10% impervious basin is appropriate for the Salmon Creek Basin.

Action items are highlighted

The PMT further agreed that the appropriate regulatory flow control detention standard for Salmon Creek is Level 1. This flow control standard can be implemented to meet the basin wide flow goal, because of the existence of the bypass line.

The maintenance and upkeep of the bypass line are critical to this recommendation. Additional basin plan recommendations for the Salmon basin will focus on addressing habitat and water quality issues, which are significant.

Discussion of Project Schedule and Scope of Next Round of Public Meetings

The PMT expressed some concerns about the current schedule. Will we be ready for a public meeting in December? Have we made enough progress in determining goals and prioritizing solutions to go back to the public in roughly one month? The PMT will continue to work on the project and make a decision in the near future about scheduling a future set of public meetings.

Upcoming Meetings

11/6 PMT (9AM – Noon in City Manager's Conference Room)

11/13 PMT (9AM – Noon in City Council Chambers)

11/20 Executive / PMT (9AM – Noon in City Manager's Conference Room)

11/27 HOLIDAY

12/4 PMT (9AM – Noon in City Manager's Conference Room)

and Salmon Public Meeting (tentative) Shorewood School location reserved

12/11 Miller and Walker Public Meeting (tentative) CJTC

(**POST MEETING NOTE – BOTH PUBLIC MEETING LOCATIONS AND DATES ARE NOW RESERVED.**)

Related Attachments

10/16/03 Approved Summary	"101603 PMT Meeting Summary.do

Action items are highlighted

Miller, Walker, and Salmon Basin Plan
Project Management Team Meeting

Date: Thursday October 16, 2003

Time: 9:00AM – 12:00PM

Location: City of Burien City Manager's Conference Room

Meeting Summary

Attendees

Dan Bath	City of Burien
Bruce Bennett	King County
Steve Bennett	City of Normandy Park
Steve Clark	City of Burien
Curt Crawford	King County
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Mehrdad Moini	WSDOT
Dale Schroeder	City of SeaTac
Bob York	Port of Seattle
Julie Cairn	King County

Announcements and General Business

Meeting summaries for the 9/11/03, 9/18/03, and 10/2/03 PMT meetings and the two public meetings were distributed before the meeting via email.

Curt offered some comments on the Miller and Walker public meeting notes (identifying discussion items that were not reflected in the notes). PMT members were asked to provide any corrections on these five items to Bruce by close of business October 24. The summaries and notes will be finalized at that time with the incorporation of any comments received.

Please make sure project billings have been submitted to your accounting organizations for processing. There are several agencies that have not paid their bills yet.

Public Meeting Follow up

PMT members were generally pleased with the public meetings. Participants appeared to appreciate the information, and look forward to continued opportunities for involvement. Julia Patterson was very complimentary of the effort.

Bruce and Curt talked further with Shawn McIlvoy following the Miller and Walker public meeting, regarding his comments about the estuary restoration project that the

Normandy Park Community Club is proceeding with. Apparently the Community Club is proceeding with a salt marsh restoration project. They have permits in hand. Mr. McIlvoy's opposition to a basin plan recommended estuary restoration project is strong, but mostly related to implementation issues, not the results it might achieve. This issue is worth further discussion. Some of this resistance is likely related to concerns raised during King County's prior efforts to scope an estuary enhancement project for the Community Club (about 10 years ago). King County asked for information regarding the Community Club's current project.

At the PMT meeting, Steve Bennett offered to provide Bruce Bennett with copies of planning documents for the project, since the Normandy Park Community Club had to submit them to the City of Normandy Park for approval. The City of Normandy Park placed development conditions on the project, including the traditional performance bond.

Steve characterized the scope of the project as dredging out Walker Creek, revegetating the stream bank, and creating a settling pond upstream of the duck pond to reduce the silt delivered to the duck pond.

Northwest Hydraulic Consultants Letter Regarding Hydraulic Modeling

Northwest Hydraulic Consultants (NHC) staff, on behalf of the ACC, met with King County hydrologic modelers in July, and have subsequently evaluated the Miller and Walker Creek modeling efforts conducted for the basin plan project. They submitted a letter on October 1st with their evaluation results.

Generally, they were complimentary of the modeling work that has been conducted to support the basin plan. They acknowledged some of the difficulties that the county and Port modelers had in calibrating the model, and in looking at the differences in basin geology data, and they compared and contrasted the different ways that the Port modelers and the King County modelers took to resolve these calibration difficulties. The NHC consultants had four specific recommendations:

1. Conduct a model run that presumes that the third runway is NOT constructed.

This model run has now been completed, based on PMT direction at the October 2 PMT Meeting. The results of this model run are discussed below.

2. Factor the Port's low flow augmentation vault into the model runs.

The low flow augmentation vault adds 0.11cfs flow to the system from August 1 through October 31 of each year. This has been incorporated into recent model runs.

3. Evaluate data from the Port regarding Industrial Wastewater System (IWS) leakage, to determine if this might account for some of the calibration discrepancies in the model runs, and the extensive groundwater component in the basin.

At the PMT meeting, Bob York provided some information about the IWS system:

The oldest portions of the system were constructed in the 1960's, and are concrete bell and spigot pipe.

Action items are highlighted

The Port has a program in place to do ongoing video inspections, and to implement capital projects in response to identified problems. Much of the remediation is *in situ* rather than removal and replacement.

The IWS treats stormwater collected in areas of the airport where de-icing and refueling activities occur (terminal and maintenance areas). The majority of the flow to the IWS is stormwater.

The Port has IWS flow data and lagoon data that should be useful to conduct a rough mass balance of flows.

In response to the NHC letter, Bruce will ask Kelly Whiting to talk to the NHC consultants about the information they have reviewed and their concerns on this issue.

4. Conduct field investigations to determine if there are errors in soils mapping that might be contributing to calibration problems, and the resulting underestimation of peak flows.

The PMT felt this was a good suggestion, but based on available resources, is probably unrealistic. The Port and the county both used the USGS soils data that was the basis of the calibration.

The PMT felt that the basin plan could address this uncertainty without resurveying all of the soils mapping, and even though there are differences in the actual and predicted peak flows, these discrepancies are relative across the model runs.

Evaluating the soils mapping could be considered for recommendation in the basin plan report as a future work item.

King County staff did speak with NHC staff briefly before the letter was finalized. They discussed the difficulties with calibrating the model, and the frustrations this causes. The NHC staff were asked what they would do differently. They did not have a different approach to recommend.

Low Flow Model Run Results

Low flow model runs for Salmon, Miller, and Walker have been completed. These runs incorporate the additional 0.11cfs flow from the Port into Walker Creek.

Bruce needs to follow up with the modelers regarding the Miller low flow result, and their explanation that evapotranspiration accounts for results that are not necessarily intuitive. These results may also be artifacts of the scale of the model run data, and may simply be noise.

If the low flow model runs are correct as presented, they show that low flows are not a significant problem in Salmon, Miller, or Walker Creeks.

No Third Runway Model Run Results

The PMT reviewed peak flow and flow duration analyses that assumed no third runway construction and no associated mitigation. A 1995 land cover was used and development was assumed to occur in parcels in which the improvement value was less than the land

value. The flow curves for Miller and Walker showed that there is a benefit to the streams from the Port's proposed mitigation for the third runway (i.e., peak flows and flow durations are reduced in the 3rd runway scenario vs. the no 3rd runway scenario). This is because (1) the Level 2 – 75/15/10 detention standard required by Ecology is a restorative standard (i.e., it's better than the existing conditions), and (2) the Port is also required to retrofit its existing development for both water quantity and quality.

Discussion of Flow Control in the Basins

The PMT discussed the potential flow goals for the basins, and the options available to achieve the goals.

After lengthy discussion, the group agreed that meeting the basin-wide flow goal of 75/15/10 (the BDHA line) in each of the three basins was appropriate. The group also acknowledged that this might not be a realistic goal, especially in the short term, so some additional analysis is required to look at the various ways this goal could be attained.

It was also discussed that the model runs to date implementing Level 2 flow control for new or redevelopment (Scenes 2 and 4) were based on a fully forested pre-development condition (Level 2 – Forested). It could be argued that Level 2 flow control based on 75/15/10 pre-development conditions is more appropriate. The latter is consistent with what Ecology is requiring of the Port.

Based on an actual property in the basin, a developer required to meet Level 2 - Forested could need to provide 30% more storage on a site than if they were required to meet Level 2 - 75/15/10.

If there were already a shortage of storage to meet the basin-wide goal to reduce flows to the 75/15/10 level, the lower development requirements would increase the gap to be made up through other means.

Flows in the basins can be reduced by the following methods:

1. Development/redevelopment regulations (primary burden on developers)
2. Retrofit requirements, including regional detention ponds (primary burden on local governments or agencies – citizen funded through rates, fees, and taxes)
3. Some combination of 1. and 2. (shares the burden)

Overall, we need to find a way to share the burden to address this problem. If the burden all goes to the developers, it would likely discourage development and redevelopment, and it could potentially lead to legal battles. On the other hand, we cannot put the entire burden on the citizens via taxes, rates, and fees imposed by local or regional entities.

Note: The new Ecology Manual requires Level 2 Flow Control based on forested pre-development conditions, unless a basin-specific recommendation is made and justified through a basin planning process.

Recommending something less than Level 2 - 75/15/10 in Miller or Walker Basins is likely to be a hard sell to Ecology. The Des Moines Creek Basin Plan recommended a

Level 1 Flow Control standard, but it was coupled with significant regional detention and a bypass line requirement.

If the basin plan recommends a flow target in the basin at the 75/15/10 line, is it ok to reduce flows to get to this target over a 20-year period as development/redevelopment occurs, or do we need to recommend projects that would get us toward that flow target sooner (constructing regional detention or doing system retrofits)?

As we discussed the various approaches, Burien staff named a few potential locations for small regional flow and/or water quality facilities or projects:

- NE redevelopment area
- Between Arbor Lake and the Kennedy School property (channel reconstruction)
- Kennedy School property
- Albertson's property
- Ambaum Pond
- Hermes/Mayfair Pond area

For Miller and Walker, the PMT requested that the technical team look at modeling data to estimate what it would take to achieve the basin-wide 75/15/10 goal (BDHA line) given various combinations of public and private funding. Some previous cost estimates were based on vault costs of $5/cf. Bob from the Port thought this vault cost estimate might be a bit low and suggested $10/cf.

For the Salmon Creek Basin, the PMT agreed that Level 1 flow control is acceptable, as long as the bypass is maintained. Water quality improvements ARE required, however.

Future Meetings

The PMT agreed that PMT meetings should be scheduled for 10/30, 11/6, and 11/13. An Executive Committee meeting will be scheduled for 11/20. Public meetings for Salmon and Miller/Walker will be scheduled for 12/4 and 12/11.

Related Attachments

10/01/03 Letter from NHC on Basin Plan Modeling	"NHC basin plan comments Oct 1 200
9/11/03 PMT Meeting Approved Summary	"091103 PMT Meeting Summary.do

Action items are highlighted

9/18/03 PMT – Executive Committee Approved Summary	 "091803 Exec-PMT Meeting Summary.do
10/2/03 PMT Approved Summary	 "100203 PMT Meeting Summary.do
Salmon Creek Public Meeting Final Notes	 "Salmon Public Meeting Notes.doc"
Miller and Walker Creeks Public Meeting Final Notes	 "Miller Walker Public Meeting Notes.doc"

Action items are highlighted